# nVIDIA N61 Series

## nVIDIA N61P/N61S/N61V
*Socket AM2 Processor Mainboard*

# User's Manual

Rev: 1.00, July 2007
P/N: 88ENN61PV0

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# Table of Contents

# Chapter 1 Introduction

## 1.1 Package Checklist

Thank you for choosing our product.
Please check the following packing and accessories, if there is any broken or part missing, please contact with your franchiser.

- HDD Cable X 1
- Serial ATA Cable X 1
- Rear I/O Panel X 1
- User's Manual X 1
- Driver/Utility CD X 1
- FDD Cable X 1 (Optional)
- Serial ATA Power Cable X 1 (Optional)

*The items listed above are for reference only, and are subject to change without notice.*

## 1.2 Specifications

| | |
|---|---|
| CPU | - Socket AM2 for AMD® Athlon<sup>TM</sup> 64/Ahtlon<sup>TM</sup> 64 FX/Athlon<sup>TM</sup> 64 X2/ Sempron<sup>TM</sup> Processor<br>- AMD 64 Architecture enables 32 and 64 bit computing<br>- Supports up to 1GHz Bandwidth<br>- Supports Hyper Transport<br>- Supports AMD CPU Cool 'n' Quiet Technology |
| Chipset | - Based on nVIDIA MCP61P/S/V chipset |
| Graphics | - Integrated nVIDIA Geforce 6100 |
| Main Memory | - 2 x 240-pin DIMM slots support (for nVIDIA N61(V1.0) Only)<br>- 4 x 240-pin DIMM slots support (for nVIDIA N61(V2.0) Only)<br>- Supports Dual Channel DDRII 533/667/800MHz |
| BIOS | - Supports Plug&Play<br>- Supports Advanced Power Management ACPI<br>- CPU temperature, Fan speed, System Voltage monitoring |
| Integrate Ports | - 1 x PS/2 Keyboard port<br>- 1 x PS/2 Mouse port<br>- 1 x VGA port<br>- 1 x COM port<br>- 1 X LPT connector<br>- 1 x IR port (optional)<br>- 8 x USB 2.0 ports, USB 1.1 is compliant<br>- 2 x SATAII 3Gb/s<br>- 4 x SATAII 3Gb/s supports SATA RAID 0,1,0+1 (for MCP61P chipset only)<br>- 1 x IDE connector, 2 x IDE devices could be connected, support ATA 66/100/133<br>- 1 x Floppy Drive, supports 360K/720K/1.2M/1.44M/2.88M floppy disk |
| Sound | - Onboard 6-channel/8-channel HD Audio Codec (Optional)<br>- Supports 16/24 bit Audio Codec<br>- Positioning Audio Support A3D, I3DL2<br>- Front Panel Jumper, provides stereo MIC port on front panel |
| Onboard LAN | - Onboard 10/100/1000Mb compatible LAN (Optional) |
| Expansion Slots | - 1 x PCI Express x16 slot (MCP61P chipset at works 16x, MCP61S chipset at works 8x, MCP61V chipset at works 1x)<br>- 1 x PCI Express x1 slot (for nVIDIA N61(V2.0) only)<br>- 2 x PCI slots<br>- Support PCI Bus interface v2.2 compliant |
| Form Factor | - Micro-ATX |

# 1.3 Mainboard Layout
## 1.3.1 nVIDIA N61(V1.0)
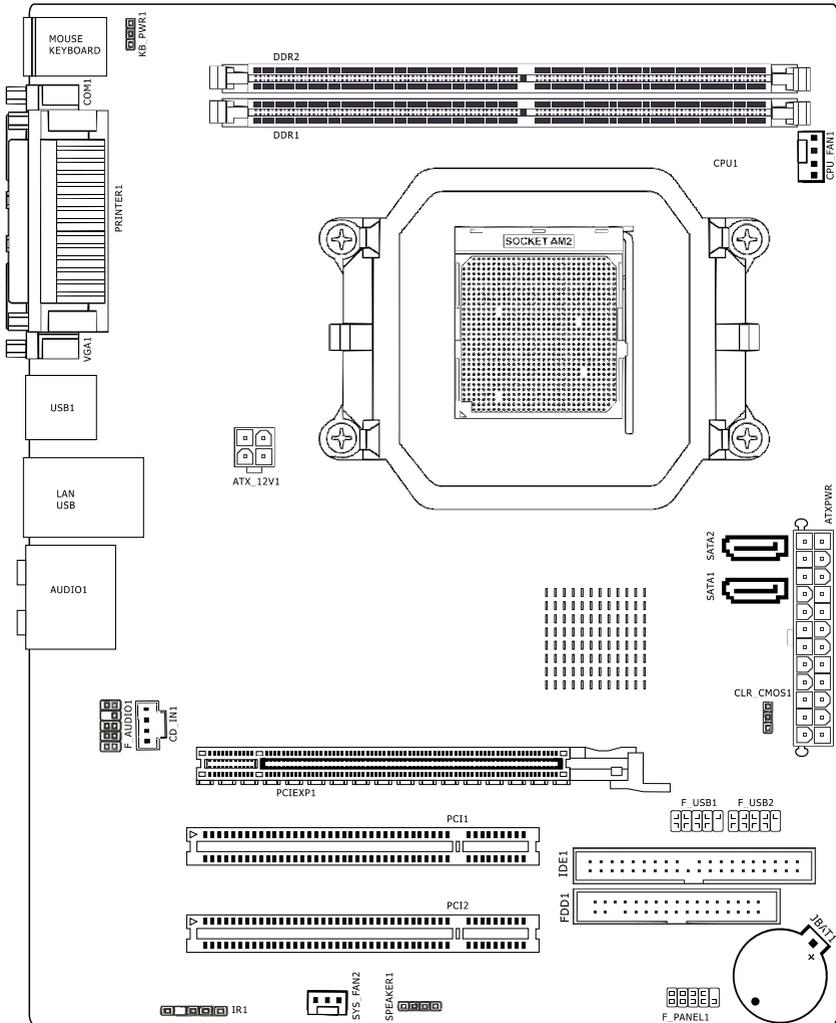


**(This picture is only for reference)**

## 1.3.2 nVIDIA N61(V2.0)
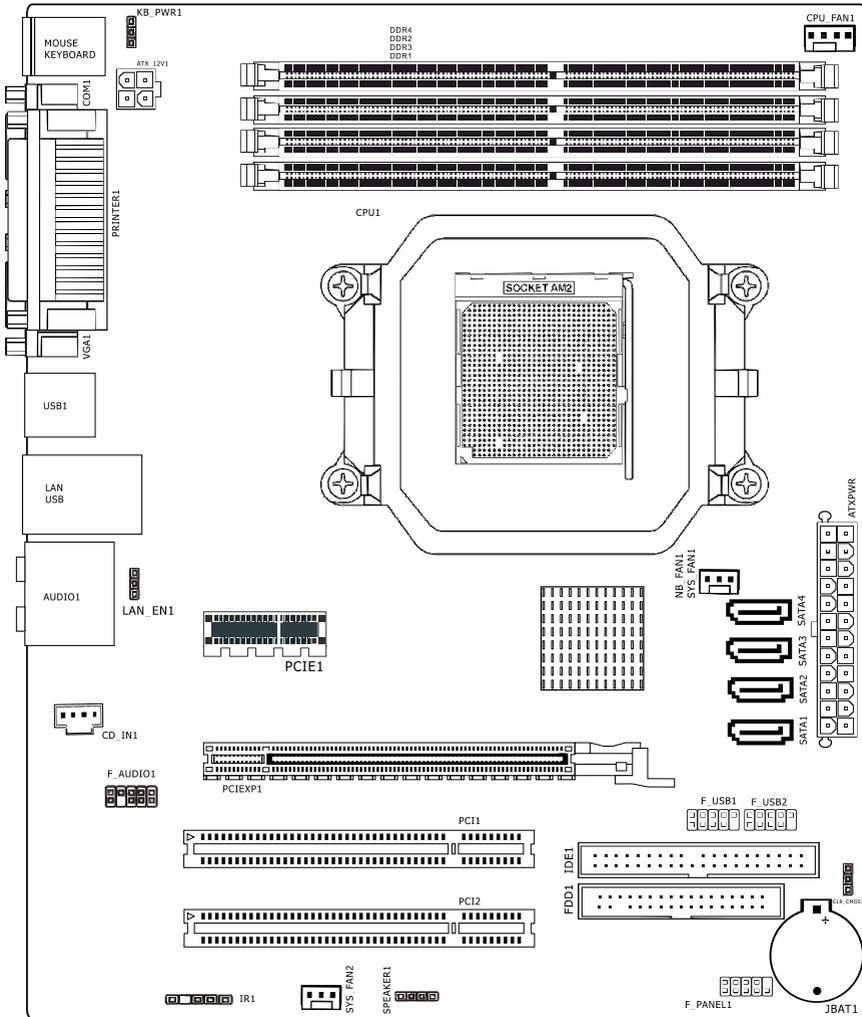


**(This picture is only for reference)**

## 1.4 Connecting Rear Panel I/O Devices

The rear I/O part of this mainboard provides the following I/O ports:
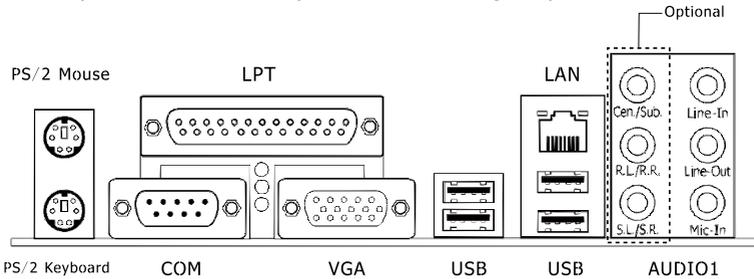


- **PS/2 Mouse:** Connect to PS/2 mouse.
- **PS/2 Keyboard:** Connect to PS/2 keyboard.
- **LPT:** Connect to printer or other devices that support this communication protocol.
- **COM:** Connect to external modem, mouse or other devices that support this
        communication protocol.
- **VGA:** Connect to monitor input.
- **LAN:** Connect to Local Area Network.
- **USB:** Connect to USB devices such as scanner, digital speakers, monitor, mouse, keyboard,
        hub, digital camera, joystick etc.
- **AUDIO1:**
  Cen./Sub. (Center / Subwoofer): Connect to the center and subwoofer channel in the 7.1
                                channel audio system.
  R.L./R.R. (Rear Left / Rear Right): Connect to the rear left and rear right channel in the 7.1
                                channel audio system.
  S.L./S.R. (Surround Left / Surround Right): Connect to the surround left and surround right
                                        channel in the 7.1 channel audio system.
  Line-In: Connect to the line out from external audio sources.
  Line-Out: Connect to the front left and front right channel in the 7.1-channel or regular
          2-channel audio system.
  Mic-In: Connect to the plug from external microphone.

# Chapter 2 Hardware Setup

## 2.1 Choosing a Computer Chassis

⚠️ *The mainboard and its component layouts illustrated in this chapter were based mainly on model "nVIDIA N61(V1.0)", unless specifically stated.*

- Choose a chassis big enough to install this mainboard.
- As some features for this mainboard are implemented by cabling connectors on the mainboard to indicators and switches or buttons on the chassis, make sure your chassis supports all the features required.
- If there is possibility of adopting some more hard drives, make sure your chassis has sufficient power and space for them.
- Most chassis have alternatives for I/O shield located at the rear panel. Make sure the I/O shield of the chassis matches the I/O port configuration of this mainboard. You can find an I/O shield specifically designed for this mainboard in its package.

## 2.2 Installing Mainboard

Most computer chassis have a base with many mounting holes to allow the mainboard to be securely attached, and at the same time, prevent the system from short circuits. There are two ways to attach the mainboard to the chassis base: (1) with studs, or (2) with spacers. Basically, the best way to attach the board is with studs. Only if you are unable to do this should you attach the board with spacers. Line up the holes on the board with the mounting holes on the chassis. If the holes line up and there are screw holes, you can attach the board with studs. If the holes line up and there are only slots, you can only attach with spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the board into position aligned with slots. After the board has been positioned, check to make sure everything is OK before putting the chassis back on.
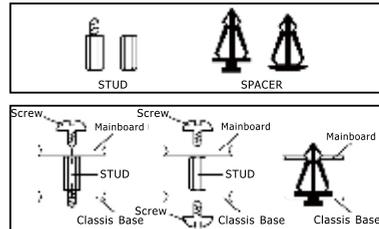
⚠️ Always power off the computer and unplug the AC power cord before adding or removing any peripheral or component. Failing to do so may cause severe damage to your mainboard and/or peripherals. Plug in the AC power cord only after you have carefully checked everything.

To install this mainboard:
1. Locate all the screw holes on the mainboard and the chassis base.
2. Place all the studs or spacers needed on the chassis base and have them tightened.
3. Face the mainboard's I/O ports toward the chassis's rear panel.
4. Line up all the mainboard's screw holes with those studs or spacers on the chassis.
5. Install the mainboard with screws and have them tightened.

⚠️ To prevent shorting the PCB circuit, please REMOVE the metal studs or spacers if they are already fastened on the chassis base and are without mounting-holes on the mainboard to align with.

## 2.3 Installation of the CPU and CPU Cooler

Before installing the CPU, please comply with the following conditions:
1. Please make sure that the mainboard supports the CPU.
2. Please take note of the one indented corner of the CPU. If you install the CPU in the wrong direction, the CPU will not insert properly. If this occurs, please change the insert direction of the CPU.
3. Please add an even layer of heat sink paste between the CPU and CPU cooler.
4. Please make sure the CPU cooler is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
5. Please set the CPU host frequency in accordance with the processor specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.

### 2.3.1 Installation of the CPU

1. Unlock the socket by pressing the lever sideways, then lift it up to a 90°.
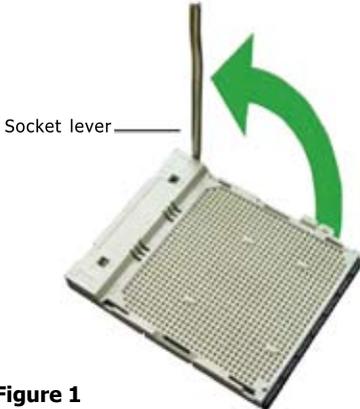
Socket lever

**Figure 1**

4. When the CPU is in place, push down the socket lever to secure the CPU. The lever clicks on the side tab to indicate that it is locked.

**Figure 3**

2. Position the CPU above the socket such that the CPU corner with the gold triangle matches the socket corner with a small triangle.
3. Carefully insert the CPU into the socket until it fits place.

Gold triangle

Small triangle

**Figure 2**

### 2.3.2 Installation of the CPU Cooler
For proper installation, please kindly refer to the instruction manuals of your CPU Cooler.

## 2.4 Installation of Memory Modules
This mainboard provides four 240-pin DDRII (Double Data Rate) DIMM slots, and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install two identical (the same brand, speed, size and chip-type) memory modules in the DDRII DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode.

To reach the performance of Dual Channel DDR2, the following rules must be obeyed:
For 2-DIMM dual-channel installation:
Populate DIMM modules of the same type and size on slots [DDR1]+[DDR2], or slots [DDR3]+[DDR4] (for nVIDIA N61(V2.0) Only).
For 4-DIMM dual-channel installation: (for nVIDIA N61(V2.0) Only)
Populate 2 DIMM modules of the same type and size on slots [DDR1]+[DDR2], and another 2 DIMM modules of the same type and size on slots [DDR3]+[DDR4] .
[DDR1] and [DDR2] slots are made of the same color.
[DDR3] and [DDR4] are made of another same color.

⚠ Static electricity can damage the electronic components of the computer or optional boards. Before starting these procedures, ensure that you are discharged of static electricity by touching a grounded metal object briefly.

To install system memory:
1. Power off the computer and unplug the AC power cord before installing or removing memory modules.
2. Locate the DIMM slot on the board.
3. Hold two edges of the DIMM module carefully, keep away from touching its connectors.
4. Align the notch key on the module with the rib on the slot.



5. Firmly press the module into the slots until the ejector tabs at both sides of the slot automatically snap into the mounting notch. Do not force the DIMM module in with extra force as the DIMM module only fits in one direction.
6. To remove the DIMM modules, push the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.
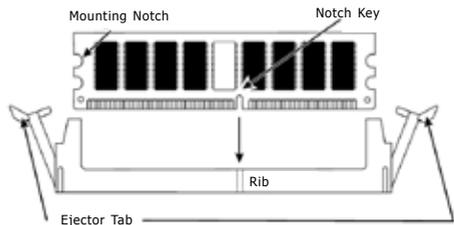
## 2.5 Connecting Peripheral Devices

### 2.5.1 Floppy and IDE Disk Drive Connectors
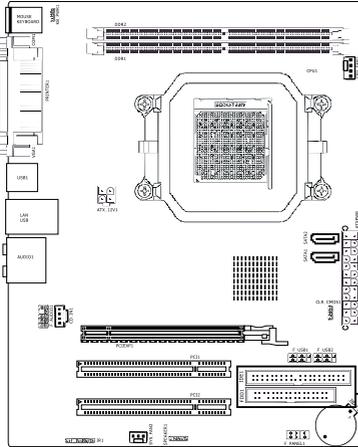


Each of the IDE port connects up to two IDE drives at Ultra ATA 66/100/133 mode by one 40-pin, 80-conductor,and 3-connector Ultra ATA/66 ribbon cables.

Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port of this board, the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors of your hard drives.

⚠ **Make sure to configure the "Master" and "Slave" relation before connecting two drives by one single ribbon cable. The red line on the ribbon cable must be aligned with pin-1 on both the IDE port and the hard-drive connector.**
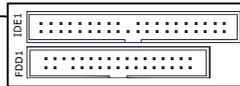
The FDD connector connects up to two floppy drives with a 34-wire, 2-connector floppy cable.Connect the single end at the longer length of ribbon cable to the FDD on the board, the two connectors on the other end to the floppy disk drives connector. Generally you need only one floppy disk drive in your system.

⚠ **The red line on the ribbon cable must be aligned with pin-1 on both the FDD port and the floppy connector.**

### 2.5.2 Serial ATA Connectors

Each SATA connector serves as one single channel to connect one SATA device by SATA cable.
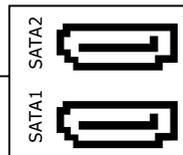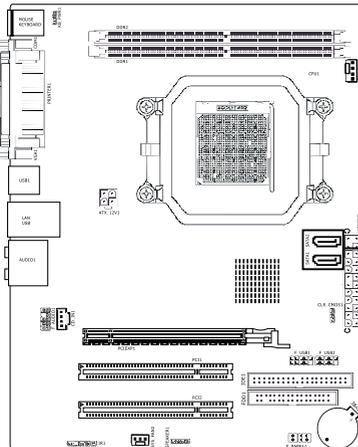


### 2.5.3 PCI and PCI Express slots

Install PCI Express X16 graphics card into slot "PCIEXP1".
Install PCI Experess X1 card into slot "PCIE". (for nVIDIA N61(V2.0) only)
Install PCI cards into slots "PCI1" and/or "PCI2".

# Chapter 3 Jumpers & Headers Setup

## 3.1 Checking Jumper Settings

- For a 2-pin jumper, plug the jumper cap on both pins will make it CLOSE (SHORT). Remove the jumper cap, or plug it on either pin (reserved for future use) will leave it at OPEN position.

- For 3-pin jumper, pin 1~2 or pin 2~3 can be shorted by plugging the jumper cap in.
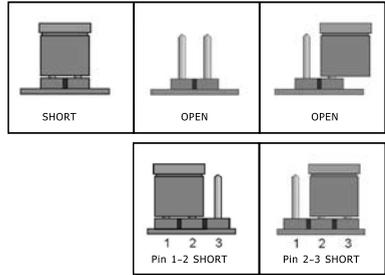
**How to identify the PIN1 jumpers?**
**Please check the mainboard carefully, the PIN1 is marked by "1" or white thick line.**

## 3.2 CMOS Memory Clearing Header

The time to clear the CMOS memory occurs when (a) the CMOS data becomes corrupted, (b) you forgot the supervisor or user password preset in the BIOS menu, (c) you are unable to boot-up the system because the CPU ratio/clock was incorrectly set in the BIOS menu, or (d) whenever there is modification on the CPU or memory modules.
This header uses a jumper cap to clear the CMOS memory and have it reconfigured to the default values stored in BIOS.
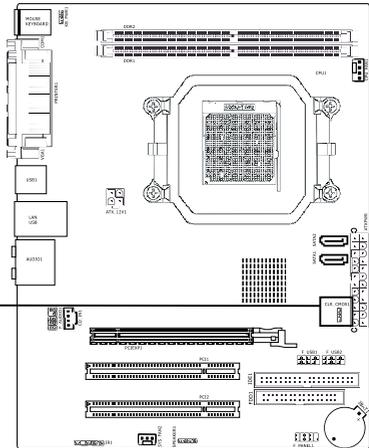
- Pins 1 and 2 shorted (Default): Normal operation.
- Pins 2 and 3 shorted: Clear CMOS memory.
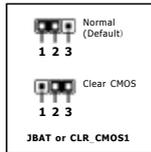
To clear the CMOS memory and load in the default values:
1. Power off the system.
2. Set pin 2 and pin 3 shorted by the jumper cap. Wait for a few seconds. Set the jumper cap back to its default settings --- pin 1 and pin 2 shorted.
3. Power on the system.
4. For incorrect CPU ratio/clock settings in the BIOS, press <Del> key to enter the BIOS setup menu right after powering on system.
5. Set the CPU operating speed back to its default or an appropriate value.
6. Save and exit the BIOS setup menu.

## 3.3 Keyboard Power Function(KB_PWR1)

Pin 1-2 short: Support power on by keyboard
Pin 2-3 short: Disabled power on by keyboard
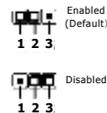
KB_PWR1:

## 3.4 FAN Power Connectors

These connectors each provide power to the cooling fans installed in your system.

CPU_FAN1: CPU Fan Power Connector
SYS_FAN1: System Fan Power Connector (Options)
SYS_FAN2: System Fan Power Connector
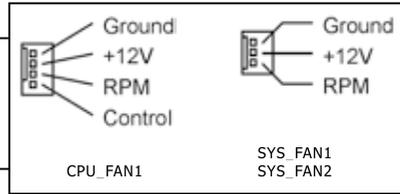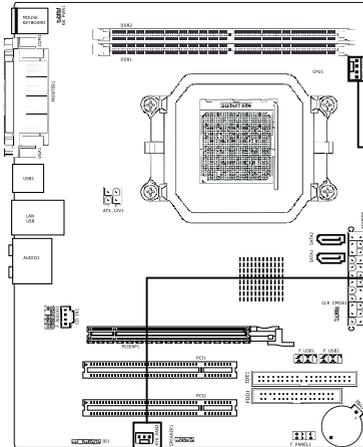
⚠ **These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.**

## 3.5 Front Panel Switches & Indicators Headers
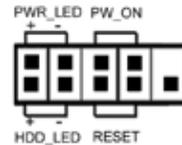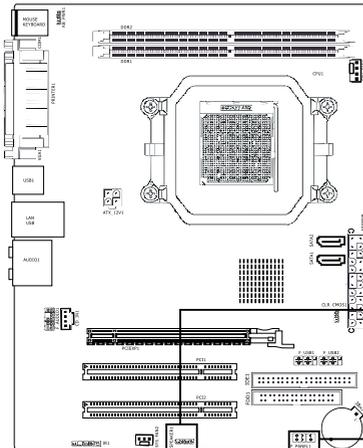
**HDD_LED (Hard Driver LED Header)**
Connect the HDD LED cable to these PINs, in order to see the HDD status

**RESET (Reset Control)**
This connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch.  This is a preferred method of rebooting in order to prolong the lift of the system's power supply.

**PWR-ON (Power Button)**
This connector connects to the case-mounted power switch to power ON/OFF the system.

**SPEAKER (Speaker)**
This 4-pin connector connects to the case-mounted speaker. You should follow the instruction of the speaker cable.

## 3.6 Additional USB Port Headers
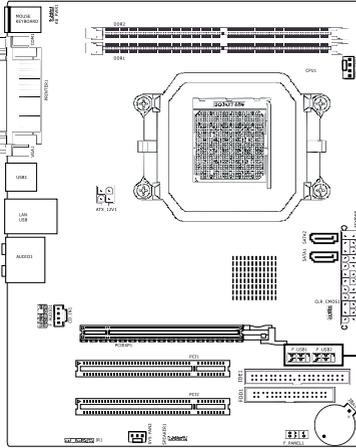
| Pin | Pin Assignment | Pin | Pin Assignment |
|-----|----------------|-----|----------------|
| 1 | VCC | 2 | VCC |
| 3 | Data 0- | 4 | Data 1- |
| 5 | Data 0+ | 6 | Data 1+ |
| 7 | Ground | 8 | Ground |
|   |   | 10 | NC |

2 ▨▨▨▨■ 9
1 ▨▨▨▨▨ 10

FUSB1 FUSB2
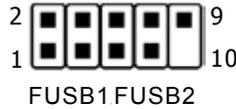
## 3.7 Front Panel Audio Connection Header

This header provides the connection to audio connector at front panel.
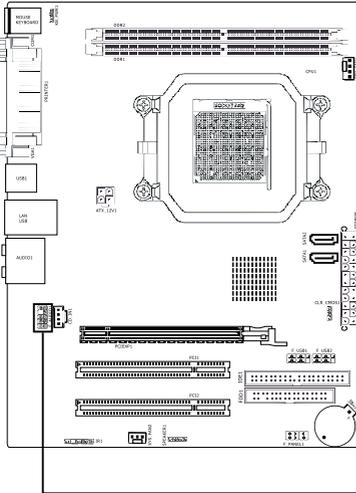
HD Audio:

| Pin No. | Definition |
|---------|------------|
| 1 | MIC2_L |
| 2 | GND |
| 3 | MIC2_R |
| 4 | -ACZ_DET |
| 5 | LINE2_R |
| 6 | FSENSE1 |
| 7 | FAUDIO_JD |
| 8 | No Pin |
| 9 | LINE2_L |
| 10 | FSENSE2 |

AC'97 Audio:

| Pin No. | Definition |
|---------|------------|
| 1 | MIC |
| 2 | GND |
| 3 | MIC Power |
| 4 | NC |
| 5 | Line Out (R) |
| 6 | NC |
| 7 | NC |
| 8 | No Pin |
| 9 | Line Out (L) |
| 10 | NC |

F_AUDIO

## 3.8 Internal Audio Connectors

Connect CD-ROM or DVD-ROM audio out to the connector.



| Pin No. | Definition |
|---------|-----------|
| 1 | CD-L |
| 2 | GND |
| 3 | GND |
| 4 | CD-R |
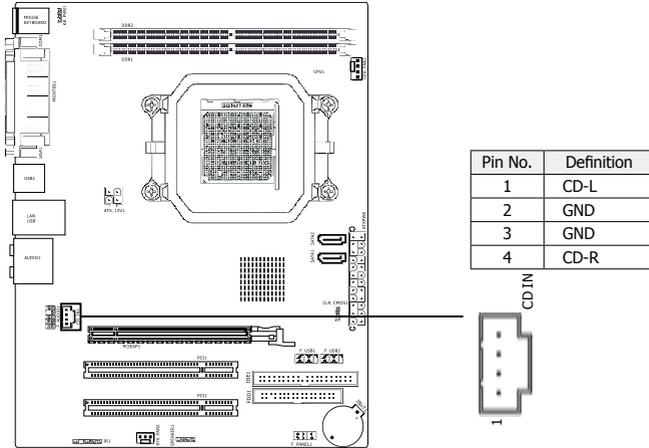
## 3.9 IR Connection Header (Optional)

Connect the IrDA cable (if available) to this IR connector.



| Pin No. | Definition |
|---------|-----------|
| 1 | VCC |
| 2 | NC |
| 3 | IRRX |
| 4 | GND |
| 5 | IRTX |
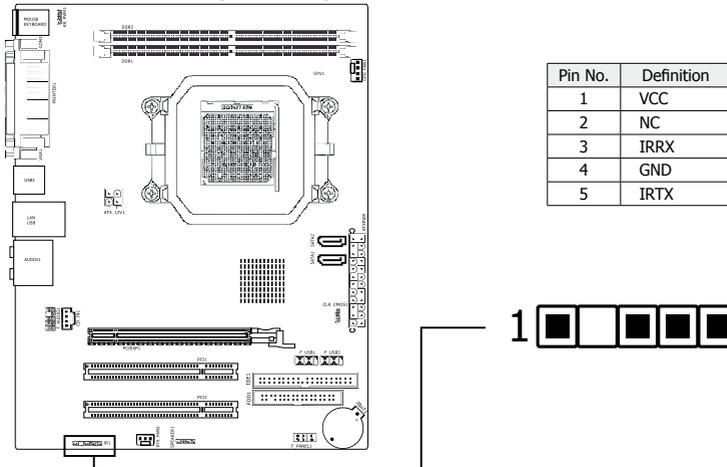
## 3.10 ATX Power Input Connectors

This mainboard provides two power connectors to connect power supplier.



PWR12V                    ATXPWR
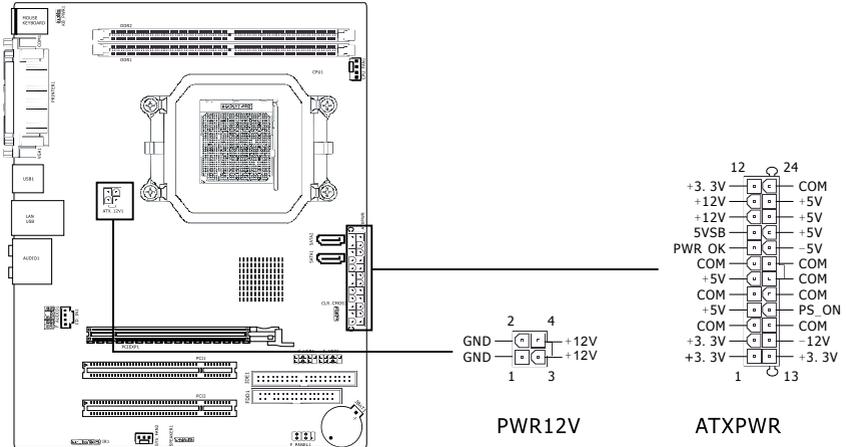
# Chapter 4 BIOS Setup Utility

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:
1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
2. Loading and running your operating system.
3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

## 4.1 About BIOS Setup

BIOS Setup is an interactive BIOS program that you need to run when:
1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
2. Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

## 4.2 To Run BIOS Setup

First access BIOS setup menu by pressing <DEL> key after "POST" is complete (before OS is loaded). BIOS will then display the following message:

```
DEL: SETUP
```

## 4.3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

## 4.4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

## 4.5 BIOS Setup — CMOS Setup Utility

⚠ • *In order to increase system stability and performance, our engineering staff is constantly improving the BIOS menu. The BIOS setup screens and descriptions illustrated in this manual are for your reference only, and may not completely match with what you see on your screen.*
• *Do not change the BIOS parameters unless you fully understand its function.*

### 4.5.1 CMOS Setup Utility

After powering up the system, the BIOS message appears on the screen, the memory count begins, and then the following message appears on the screen:

```
Press DEL to enter SETUP
```

If this message disappears before you respond, restart the system by pressing <Ctrl> + <Alt>+ <Del> keys, or by pressing the Reset button on computer chassis. Only when these two methods should be fail that you restart the system by powering it off and then back on.

After pressing <Del> key, the main menu screen appears.

```
          Phoenix - AwardBIOS CMOS Setup Utility

 ▶ Standard CMOS Features          ▶ Frequency/Voltage Control

 ▶ Advanced BIOS Features             Load Fail-Safe Defaults

 ▶ Advanced Chipset Features          Load Optimized Defaults

 ▶ Integrated Peripherals             Set Supervisor Password

 ▶ Power Management Setup             Set User Password

 ▶ PnP/PCI Configurations            Save & Exit Setup

 ▶ PC Health Status                  Exit Without Saving


 Esc : Quit                    ↑↓→←  : Select Item
 F10 : Save & Exit Setup

               Time, Date, Hard Disk Type...
```

● **Standard CMOS Features**
  This setup page includes all the items in standard compatible BIOS.
● **Advanced BIOS Features**
  This setup page includes all the items of Award special enhanced features.
● **Advanced BIOS Features**
  This setup page includes all the items of Award special enhanced features.
● **Integrated Peripherals**
  This setup page includes all onboard peripherals.
● **Power Management Setup**
  This setup page includes all the items of Green function features.
● **PnP/PCI Configurations**
  This setup page includes all the configurations of PCI & PnP ISA resources.

● **PC Health Status**
   This setup page is the System auto detect temperature, voltage, fan, speed.
● **Frequency/Voltage Control**
   This setup page is control CPU clock and frequency ratio.
● **Load Fail-Safe Defaults**
   Fail-Safe Defaults indicates the value of the system parameters which the system would
   be in safe configuration.
● **Load Optimized Defaults**
   Optimized Defaults indicates the value of the system parameters which the system would
   be in best performance configuration.
● **Set Supervisor Password**
   Change, set, or disable password. It allows you to limit access to the system and Setup,
   or just to Setup.
● **Set User Password**
   Change, set, or disable password. It allows you to limit access to the system.
● **Save & Exit Setup**
   Save CMOS value settings to CMOS and exit setup.
● **Exit Without Saving**
   Abandon all CMOS value changes and exit setup.

### 4.5.2 Control Keys

Press F1 to pop up a small help window that describes the appropriate keys to use and the
possible selections for the highlighted item.

Please check the following table for the function description of each control key.

| Control Key(s) | Function Description |
|---|---|
| ← / → | Move cursor left or right to select Screens |
| ↑ / ↓ | Move cursor up or down to select items |
| +/ −/PU/PD | To Change option for the selected items |
| <Enter> | To bring up the selected screen |
| <ESC> | Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu |
| <F1> | General help |
| <F2> | Item Help |
| <F5> | Restore the previous CMOS value from CMOS, only for Option Page Setup Menu |
| <F6> | Load the fail-safe default CMOS value from BIOS default table |
| <F7> | Load the Optimized Defaults |
| <F10> | Save all the CMOS changes |

### 4.5.3 Standard CMOS Features

```
                    Phoenix - AwardBIOS CMOS Setup Utility
                             Standard CMOS Features

     Date (mm:dd:yy)          Mon, Jun  11 2007          Item Help
     Time (hh:mm:ss)          13 : 19 : 44
                                                     Menu Level   ▶
   ▶ IDE Channel 0 Master     [MAXTOR STM380215A]
   ▶ IDE Channel 0 Slave      [None]                 Change the day, month,
   ▶ IDE Channel 2 Master     [None]                 year and century
   ▶ IDE Channel 2 Slave      [None]
   ▶ IDE Channel 3 Master     [None]
   ▶ IDE Channel 3 Slave      [None]

     Drive A                  [1.44M, 3.5in.]
     Drive B                  [None]

     Video                    [EGA/VGA]
     Halt On                  [All Errors]


     Base Memory                   640K
     Extended Memory           1047552K
     Total Memory              1048576K

   ↑↓→←:Move Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
         F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults
```

- **Date (mm:dd:yy)**
  This item sets the date you specify (usually the current date) in the format of [Month], [Date],and [Year].
- **Time (hh:mm:ss)**
  This item sets the time you specify (usually the current time) in the format of [Hour], [Minute],and [Second].
- ▶ **IDE Channel 0/2/3 Master/Slave**
  Click <Enter> key to enter its submenu:

```
                    Phoenix - AwardBIOS CMOS Setup Utility
                             IDE Channel 0 Master

     IDE HDD Auto-Detection    [Press Enter]          Item Help

     IDE Channel 0 Master      [Auto]
     Access Mode               [Auto]               Menu Level   ▶▶

     Capacity                      80 GB            To auto-detect the
                                                    HDD's size, head... on
     Cylinder                    38309              this channel
     Head                           16
     Precomp                         0
     Landing Zone                38308
     Sector                        255

   ↑↓→←:Move Enter:Select   +/-/PU/PD:Value   F10:Save   ESC:Exit   F1:General Help
         F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults
```

**IDE HDD Auto-Detection**
This item allows you to detect the parameters of IDE drives by pressing <Enter> key. The parameters will be shown on the screen automatically.
**IDE Channel 0 Master/Slave,SATA Channel 1~4**
When set to [Auto], the BIOS will automatically check what kind of IDE or SATA hard drive you are using. If you want to define your own drive yourself, set it to [Manual] and make sure you fully understand the meaning of the parameters. Please refer to the instruction manual provided by the device's manufacturer to get the setting right.
**Access Mode**
This item selects the mode to access your IDE or SATA devices. Leave this item at its default [Auto] setting to detect the access mode of your HDD automatically.
**Capacity**
This item displays the approximate capacity of the disk drive. Usually the size is slightly greater than the size of a formatted disk given by a disk-checking program.
**Cylinder**
This item configures the numbers of cylinders.
**Head**
This item configures the numbers of read/write heads.
**Precomp**
This item displays the number of cylinders at which to change the write timing.
**Landing Zone**
This item displays the number of cylinders specified as the landing zone for the read/write heads.
**Sector**
This item configures the numbers of sectors per track.

**• Back to Standard CMOS Features Setup Menu**

- **Drive A & Drive B**
  This item sets the type of floppy drives (usually only Drive A) installed.
- **Video**
  This item allows you to set the video transfer card type of the monitor.
- **Halt On**
  This item determines whether the system stops if an error is detected during system boot-up.
  **[All Errors]:** The system-boot will stop whenever the BIOS detect a non-fatal error.
  **[No Errors]:** The system-boot will not stop for any error detected.
  **[All, But Keyboard]:** The system-boot will stop for all errors except a keyboard error.
  **[All, But Diskette]:**   The system-boot will stop for all errors except a diskette error.
  **[All, But Disk/Key]:** The system-boot will stop for all errors except a diskette or
                             keyboard error.
- **Base Memory**
  This item displays the amount of base memory installed in the system. The value of the base memory is typically 640K for systems with 640K or more memory size installed on the mainboard.
- **Extended Memory**
  This item displays the amount of extended memory detected during system boot-up.
- **Total Memory**
  This item displays the total memory available in the system.

### 4.5.4 Advanced BIOS Features

```
          Phoenix - AwardBIOS CMOS Setup Utility
                  Advanced BIOS Features

  ▶ Hard Disk Boot Priority    [Press Enter]          Item Help
    Virus Warning              [Disabled]
    CPU Internal Cache         [Enabled]        Menu Level  ▶
    External Cache             [Enabled]
    Quick Power On Self Test   [Enabled]
    First Boot Device          [CDROM]
    Second Boot Device         [Hard Disk]
    Third Boot Device          [LS120]
    Boot Other Device          [Enabled]
    Swap Floppy Drive          [Disabled]
    Boot Up Floppy Seek        [Enabled]
    Boot Up NumLock Status     [On]
    Gate A20 Option            [Fast]
    Typematic Rate Setting     [Disabled]
  x Typematic Rate (Chars/Sec)  6
  x Typematic Delay (Msec)       250
    Security Option            [Setup]
    APIC Mode                   Enabled
    MPS Version Control For OS  [1.4]
    OS Select For DRAM > 64MB   [Non-OS2]
    Full Screen LOGO Show      [Enabled]
    Small Logo(EPA) Show       [Enabled]

 ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save    ESC:Exit  F1:General Help
    F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults
```

- **Hard Disk Boot Priority**
  This item selects the hard disks booting priority. By pressing <Enter> key, you can enter its submenu where the hard disks detected can be selected for the booting sequence to boot up system.
- **Virus Warning**
  Allow you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
- **CPU Internal Cache**
  Enables or Disables the Level-1 Internal Cache memory.
  Generally, this would only be Disabled for troubleshooting purposes.
- **External Cache**
  Enables or Disables the Level-2 External Cache memory.
  Generally, this would only be Disabled for troubleshooting purposes.
- **Quick Power On Self Test**
  When set to [Enabled], this item speeds up the Power On Self Test (POST) after powering on the system. The BIOS shorten or skip some check during the POST.
- **First Boot Device/Second Boot Device/Third Boot Device/Boot Other Device**
  Select the drive to boot first, second and third in the [First Boot Device], [Second Boot Device], and [Third Boot Device] items respectively. The BIOS will boot the operating system according to the sequence of the drive selected. Set [Boot Other Device] to [Enabled] if you wish to boot from another device other than these three items.

- **Swap Floppy Drive**
  If you have 2 floppy drives, you can change A to B, or change B to A.
- **Boot Up Floppy Seek**
  During POST, BIOS will determine if the floppy disk drive installed if choose [Enable].
- **Boot Up NumLock Status**
  This item defines if the keyboard Num Lock key is active when your system is started.
- **Gate A20 Option**
  [Normal]:          The A20 signal is controlled by keyboard controller or chipset hardware.
  [Fast]: (default)  The A20 signal is controlled by port 92 or chipset specific method.
- **Typematic Rate Setting**
  Keystrokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.
- **Typematic Rate  (Chars/Sec)**
  Set the number of times a second to repeat a keystroke when you hold the key down.
  The settings are: 6, 8, 10, 12, 15, 20, 24, and 30.
- **Typematic Delay (Msec)**
  Set the delay time after the key is held down before is begins to repeat the keystroke.
  The settings are 250, 500, 750, and 1000.
- **Security Option**
  This item determines when the system will prompt for password - every time the system boots or only when enters the BIOS setup.
  [Setup]:   The password is required only when accessing the BIOS Setup.
  [System]: The password is required each time the computer boots up.
- **APIC MODE**
  This field is used to enable or disable the APIC (Advanced Programmable Interrupt Controller). Due to compliance with PC2004 design guide, the system is able to run in APIC mode. Enabling APIC mode will expand available IRQ resources for the system.
- **MPS Version Control For OS**
  This item specifies which version of MPS (Multi-Processor Specification) this mainboard will use. Leave this item at its default setting.
- **OS Select For DRAM > 64MB**
  Allow OS2 to be used with >64MB or DRAM. Settings are Non-OS/2 (default) and OS2. Set to OS/2 if using more than 64MB and running OS/2.
- **Full Screen LOGO Show**
  This item determines to show the full screen logo when booting.
- **Small Logo(EPA) Show**
  EPA Logo is the sign at the top of the screen when POST. If you don't want to show this logo, please set "Disabled".

### 4.5.5 Advanced Chipset Features

```
           Phoenix - AwardBIOS CMOS Setup Utility
                 Advanced Chipset Features

   Frame Buffer Size          [64M]              Item Help
   GPU Bank Flip              [Enabled]
   PMU                       [Auto]           Menu Level  ▶
   PCIE Spread Spectrum       [Disabled]
   SATA Spread Spectrum       [Disabled]
 x HT Spread Spectrum          Disabled
   SSE/SSE2 Instructions      [Enabled]
   CPU Thermal-Throttling     [50.0 %]
   TPM Control               [No Change]
   System BIOS Cacheable      [Disabled]

 ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
     F5: Previous Values   F6: Fail-Safe Defaults  F7: Optimized Defaults
```

- **Frame Buffer Size**
  This item allows you to choose the frame buffer size of on-chip VGA.
- **GPU Bank Flip**
  We suggest you to keep the default.
- **PMU**
  We suggest you to keep the default.
- **PCIE Spread Spectrum**
  This item allows you to select the PCIE Spread Spectrum function.
- **SATA Spread Spectrum**
  This item allows you to select the SATA Spread Spectrum function.
- **HT Spread Spectrum Disabled**
  We suggest you to keep the default.
- **SSE/SSE2 Instructions**
  This item allows you to Enable or Disable the SSE/SSE2 (Streaming SIMD Extensions)
  instruction set.
- **CPU Thermal-Throttling**
  We suggest you to keep the default.
- **HT Spread Spectrum Disabled**
  We suggest you to keep the default.
- **TPM Control**
  We suggest you to keep the default.
- **System BIOS Cacheable**
  Selecting the " Enabled" option allows caching of the system BIOS ROM at F0000h-
  FFFFFh, which is able to improve the system performance. However, any programs that
  attempts to write to this memory block will cause conflicts and result in system errors.

### 4.5.6 Integrated Peripherals

```
                  Phoenix - AwardBIOS CMOS Setup Utility
                          Integrated Peripherals

   ▶ IDE Function Setup                [Press Enter]         Item Help
   ▶ RAID Config                       [Press Enter]
     Onboard Lan Chip                  [Enabled]         Menu Level  ▶
     OnChip USB                        [V1.1+V2.0]
     USB Memory Type                   [Base Memory(640K0]
     USB Keyboard Support              [Enabled]
     USB Mouse Support                 [Enabled]
     HD Audio                          [Auto]
     MAC Lan                           [Auto]
     MAC Media Interface               [Pin Strap]
     Machine MAC(NV) Address           [Disabled]
   x MAC(NV) Address Input              Press Enter
     IDE HDD Block Mode                [Enabled]
     POWER ON Function                 [BUTTON ONLY]
   x KB Power ON Password               Enter
   x Hot Key Power ON                   Ctrl-F1
     Onboard FDC Controller            [Enabled]
     Onboard Serial Port 1             [3F8/1RQ4]
     UART Mode Select                  [Normal]
   x RxD , TxD Active                   Hi,Lo
   x IR Transmission Delay              Enabled
   x UR2 Duplex Mode                    Half
   x Use IR Pins                        IR-Rx2Tx2
     Onboard Parallel Port             [378/IRQ7]
     Parallel Port Mode                [SPP]
   x EPP Mode Select                    EPP1.7
   x ECP Mode Use DMA                   3
     PWRON After PWR-Fail              [Off]

   ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values   F6: Fail-Safe Defaults  F7: Optimized Defaults
```

▶ **IDE Function Setup**
   Click <Enter> key to enter its submenu:

```
                  Phoenix - AwardBIOS CMOS Setup Utility
                          IDE Function Setup

     OnChip IDE Channel 0              [Enabled]         Item Help
     Primary Master   PIO              [Auto]
     Primary Slave    PIO              [Auto]         Menu Level  ▶▶
     Primary Master   UDMA             [Auto]
     Primary Slave    UDMA             [Auto]
     IDE DMA transfer access           [Enabled]
     Serial-ATA Controller             [All Enabled]
     IDE Prefetch Mode                 [Enabled]




   ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
      F5: Previous Values   F6: Fail-Safe Defaults  F7: Optimized Defaults
```

**OnChip IDE Channel 0**
The mainboard chipset contains a PCI IDE interface with support for two IDE channels.
Select "Enabled" to activate the first and/or second IDE interface. Select "Disabled" to
deactivate an interface if you are going to install a primary and/or secondary add-in IDE
interface.

**Primary Master/Slave PIO**
Each IDE channel supports a master device and a slave device. These four items let you
assign the kind of PIO (Programmed Input/Output) were used by the IDE devices.
Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode
from 0-4.

**Primary Master/Slave UDMA**
Each IDE channel supports a master device and a slave device. This mainboard supports
UltraDMA technology, which provides faster access to IDE devices. If you install a device
that supports UltraDMA, change the appropriate item on this list to Auto. You may have
to install the UltraDMA driver supplied with this mainboard in order to use an UltraDMA
device.

**IDE DMA transfer access**
This item allows you to enable the transfer access of the IDE DMA then burst onto the
PCI bus and nonburstable transactions do not.

**Serial-ATA Controller**
Available options: [Disabled] [Enabled]

**IDE Prefetch Mode**
The " onboard" IDE drive interfaces supports IDE prefetch function for faster drive
access. If the interface on your drive does not support prefetching, or if you install a
primary and/or secondary add-in IDE interface, set this option to "Disabled".

 • **Back to Integrated Peripherals Setup Menu**

‣ **RAID Config**
    Click <Enter> key to enter its submenu:

```
┌──────────────────────────────────────────────────────────────────────┐
│              Phoenix - AwardBIOS CMOS Setup Utility                    │
│                          RAID Config                                   │
├────────────────────────────────────────────┬─────────────────────────┤
│    RAID Enable              [Disabled]      │       Item Help         │
│  x SATA 1 Pri-Master    RAID   Disabled     ├─────────────────────────┤
│  x SATA 1 Secondary     RAID   Disabled     │                         │
│  x SATA 2 Primary       RAID   Disabled     │  Menu Level  ▸▸         │
│  x SATA 2 Secondary     RAID   Disabled     │                         │
│                                             │                         │
│                                             │                         │
│                                             │                         │
│                                             │                         │
├────────────────────────────────────────────┴─────────────────────────┤
│ ↑↓→←:Move Enter:Select   +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help │
│      F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults     │
└──────────────────────────────────────────────────────────────────────┘
```
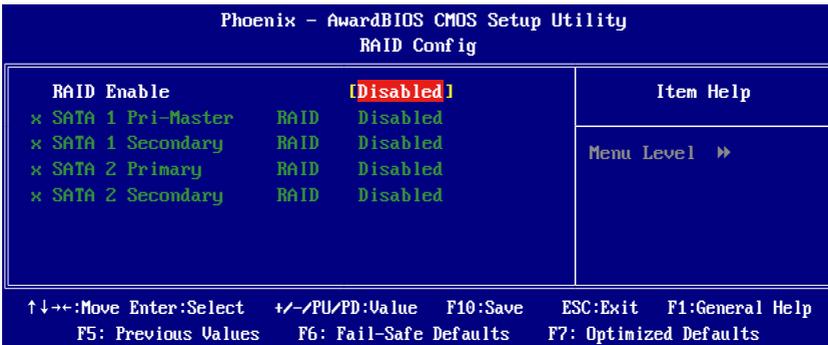
**RAID Enable**
Available options: [Disabled] [Enabled]

**SATA 1/2 Pri-Master/Primary/Secondary/Primary RAID**
This option allows you to enable or disable SATA Primary/Secondary RAID.
This is configurable only when "RAID Enable" is set to "Enabled".

 • **Back to Integrated Peripherals Setup Menu**

• **Onboard Lan Chip**
    This option enables or disables the LAN controller.

- **OnChip USB**
  This option allows you to disabled the USB function or select the mode of USB.
- **USB Memory Type**
  Available options: [Base Memory (640K)] [Shadow].
- **USB Keyboard Support**
  This item allows you to select [BIOS] for using USB keyboard in DOS environment, or [OS] in OS environment.
- **USB Mouse Support**
  This item allows you to select [BIOS] for using USB mouse in DOS environment, or [OS] in OS environment.
- **HD Audio**
  This item allows you to enable or disable the HD audio.
- **MAC Lan**
  Available options: [Disabled] [Enabled].
- **MAC Media Interface**
  Available options: [Disabled] [Enabled].
- **Machine MAC(NV) Address**
  Available options: [Disabled] [Enabled].
- **MAC(NV) Address Input**
  This is configurable only when "Machine MAC(NV) Address" is set to "Enabled".
  **IDE HDD Block Mode**
  Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support. It also improves the speed of access to IDE devices.
- **POWER ON Function**
  This item selects the way you want your system to power on.
  **[Password]:** Use a password to power on the system, select this option then press
  <Enter>. Enter your password. You can enter up to 5 characters. Type in exactly the same password to confirm, and then press <Enter>.
  **[Hot KEY]:** Use any of the function keys between <Ctrl+F1> to <Ctrl+F12> to power
  on the system.
- **KB Power ON Password**
  If you select [Password],this function will be activation.
  Press 'Enter', and input your password (1-5 characters), then press 'Enter' again.
- **Hot Key Power ON**
  If you select [Hot Key], this function will be activation.
  Available options: Ctr-F1~F12
- **Onboard FDC Controller**
  This option enables or disables the onboard FDC controller.
- **Onboard Serial Port 1**
  This item determines which I/O addresses the onboard Serial Port controller will access.
  **[Auto]:** The system automatically select an I/O address for the onboard Serial Port.
  [3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3]: Allow you to manually select an I/O address for the onboard Serial Port.
  **[Disabled]:** Disables the onboard Serial Port.
- **UART Mode Select**
  This item allows you to choose the routine IrDA protocol or ASKIR protocol. The IrDA maximum speed is 115.2K bps; ASKIR maximum speed is 57.6K bps. Default setting is Normal.
- **RxD , TxD Active**
  Active This items allows you set the transport speed of the IR devices.

- **IR Transmission Delay**
  Available options: [Disabled] [Enabled]
- **UR2 Duplex Mode**
  This item allows user choose IR mode.
  Available options: [Full], [Half]
- **Use IR Pins**
  Available options: [IR-Rx2Tx2]  [RxD2,TxD2]
- **Onboard Parallel Port**
  This item specifies the I/O address used by the parallel port.
  **[Disabled]:** This option prevents the parallel port from accessing any system resources.
  When the value of this option is set to [Disabled], the printer port becomes
  unavailable.
  **[378/IRQ7]:** This option allows the parallel port to use [378/IRQ7] as its I/O port
  address. The majority of parallel ports on computer systems use IRQ7
  and I/O Port 378H as the standard setting.
  **[278/IRQ5]:** This option allows the parallel port to use [278/IRQ5] as its I/O port
  address.
  **[3BC/IRQ7]:** This option allows the parallel port to use [3BC/IRQ7] as its I/O port
  address.
- **Parallel Port Mode**
  This item specifies the parallel port mode.
  **[Normal]:** Allow the standard parallel port mode to be used.
  **[SPP]:** (Standard Parallel Port) Allow bi-directional parallel port operation at normal
  speed.
  **[EPP]:** (Enhanced Parallel Port) Allow bi-directional parallel port operation at maximum

  speed.
  **[ECP]:** (Extended Capabilities Port) Allow bi-directional parallel port operation at a
  speed faster than the normal mode's data transfer rate.
  **[ECP+EPP]:** Allow parallel port operation at ECP and EPP mode.
  **EPP Mode Select**
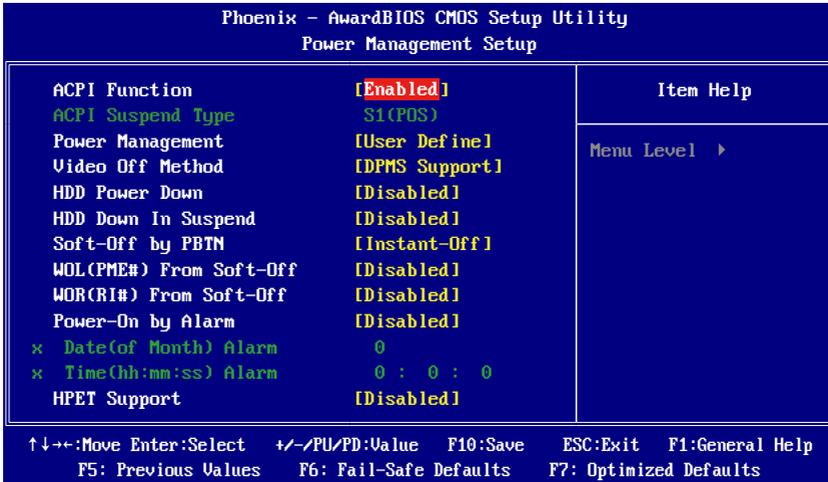  This item selects the EPP mode.
  **ECP Mode Use DMA**
  This item selects the DMA channel of the parallel port.
- **PWRON after PWR-Fail**
  This item enables your computer to automatically restart or return to its last operating
  status after power returns from a power failure.

### 4.5.7 Power Management Setup

```
            Phoenix - AwardBIOS CMOS Setup Utility
                     Power Management Setup
┌─────────────────────────────────────────────┬──────────────────┐
│ ACPI Function            [Enabled]           │   Item Help      │
│ ACPI Suspend Type         S1(POS)            │                  │
│ Power Management         [User Define]       │  Menu Level  ▶   │
│ Video Off Method         [DPMS Support]      │                  │
│ HDD Power Down           [Disabled]          │                  │
│ HDD Down In Suspend      [Disabled]          │                  │
│ Soft-Off by PBTN         [Instant-Off]       │                  │
│ WOL(PME#) From Soft-Off  [Disabled]          │                  │
│ WOR(RI#) From Soft-Off   [Disabled]          │                  │
│ Power-On by Alarm        [Disabled]          │                  │
│ x  Date(of Month) Alarm    0                 │                  │
│ x  Time(hh:mm:ss) Alarm    0 :  0 :  0       │                  │
│ HPET Support             [Disabled]          │                  │
├─────────────────────────────────────────────┴──────────────────┤
│ ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│    F5: Previous Values   F6: Fail-Safe Defaults  F7: Optimized Defaults       │
└─────────────────────────────────────────────────────────────────┘
```

- **ACPI Function**
  This item allows you to Enabled/Disabled the Advanced Configuration and Power Management (ACPI).
- **ACPI Suspend Type**
  This item allows you to select ACPI Suspend Type.
- **Power Management**
  This option is for choose ACPI mode (or grade) etc.

| Min Saving | If system activity is not detected for 1 hour, all devices except CPU will be shut off. If this item is selected, Doze/Standby/Suspend Mode are not available. |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Max Saving | If system activity is not detected for 10 seconds, all devices except CPU will be shut off. |

- **Video off Method**

| V/HSYNC+Blank | This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer. |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Blank Screen  | This option only writes blanks to the video buffer. |
| DPMS Support  | Initial display power management signaling.( default) |

- **HDD Power Down**
  When enabled, the hard-disk drives will power down after a set time of system inactivity. All other devices remain active.
- **HDD Down In Suspend**
  This option allows you to enabled or disabled the HDD power down function in suspend mode.
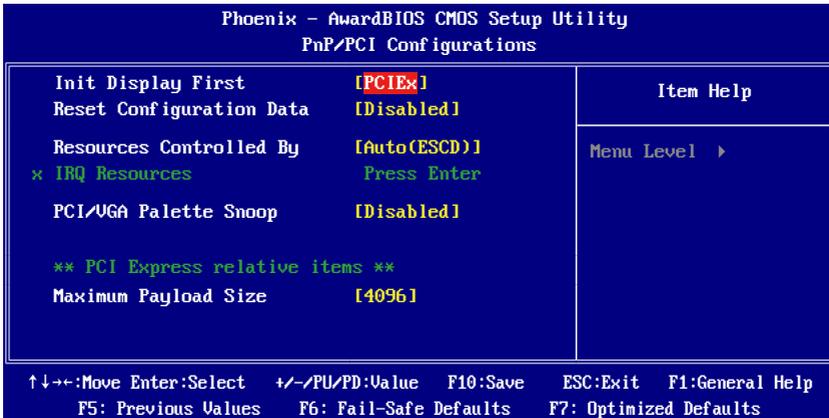- **Soft-Off by PBTN**
  Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state.
- **WOL (PME#) From Soft-Off**
  When enabled, NV LAN activity awakens the system from soft-off state.

- **Power-On by Alarm**
  The field is used to enable or disable the feature of booting up the system on a scheduled time/date.
- **Date (of Month) Alarm**
  **[0]:** This option power-on the system everyday according to the time set in the "Time (hh:mm:ss) Alarm" item.
  **[1-31]:** This option selects a date you would like the system to power-on. The system will power-on on the date set, and the time set in the "Time (hh:mm:ss) Alarm" item.
- **Time (hh:mm:ss) Alarm**
  This item sets the time you would like the system to power-on.
- **HPET Support**
  Available options: [Disabled] [Enabled].

### 4.5.8 PnP PCI Configuration

```
              Phoenix - AwardBIOS CMOS Setup Utility
                       PnP/PCI Configurations
┌─────────────────────────────────────────────┬───────────────────────┐
│   Init Display First        [PCIEx]          │      Item Help        │
│   Reset Configuration Data  [Disabled]       │                       │
│                                              ├───────────────────────┤
│   Resources Controlled By   [Auto(ESCD)]     │  Menu Level  ▶        │
│ x IRQ Resources               Press Enter    │                       │
│                                              │                       │
│   PCI/VGA Palette Snoop     [Disabled]       │                       │
│                                              │                       │
│   ** PCI Express relative items **           │                       │
│   Maximum Payload Size      [4096]           │                       │
│                                              │                       │
│                                              │                       │
├──────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→←:Move Enter:Select   +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│      F5: Previous Values   F6: Fail-Safe Defaults   F7: Optimized Defaults    │
└──────────────────────────────────────────────────────────────────────┘
```

- **Init Display First**
  This feature allows you to select the first initiation of the monitor display from which card when you install a PCI card and a PCI Express VGA card on the mainboard.
- **Reset configuration data**
  Usually you'd better keep this setting [Disabled].
- **Resource controlled by**
  The plug and play bios from Award can configure all the booting devices and plug and play devices automatically.
- **IRQ Resources**
  Press <Enter> to enter the sub-menu. When "Resources Controlled By" sets to [Manual], this field is adjustable.
- **PCI/VGA Palette Snoop**
  If this option sets to [Enabled], different VGA devices which work in different bus will manage the data from CPU with different palettes.
  NOTE: This option can fix some issue that the VGA card is not standard .We suggest you to keep the default setting.
- **Maximum Payload Size**
  This setting specifies the maximum TLP payload size for the PCI Express devices. The unit is byte.

### 4.5.9 PC Health Status

```
         Phoenix - AwardBIOS CMOS Setup Utility
                  PC Health Status

   Post Show Health Status    [Disabled]              Item Help
   Current System Temp.       25°C/ 78°F
   Current CPU Temperture     39°C/102°F         Menu Level   ▶
   Current SYSFAN2 Speed          0 RPM
   Current CPUFAN Speed        2960 RPM
   Current SYSFAN1 Speed          0 RPM
   CPU   Vcore                 1.34 V
   +12 V                      12.24 V
   +3.3V                       3.32 V
   DIMM Vcore                  1.90 V
   CHIP Vcore                  1.20 V
   + 5 V                       5.60 V
   VBAT(V)                     3.00 V
   5USB(V)                     4.99 V
   Shutdown Temperature       [Disabled]

↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help
    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults
```

- **Post Show Health Status**
  Show the system status when post.
- **All Voltages, Fans Speed and Thermal Monitoring**
  These unchangeable items list the current status of the CPU and environment temperatures, fan speeds, and system power voltage.
- **Shutdown Temperature**
  You can set the processor shutdown temperature here. If the processor temperature exceeds the settings value, system will force to shutdown to protect the processor not overheat.
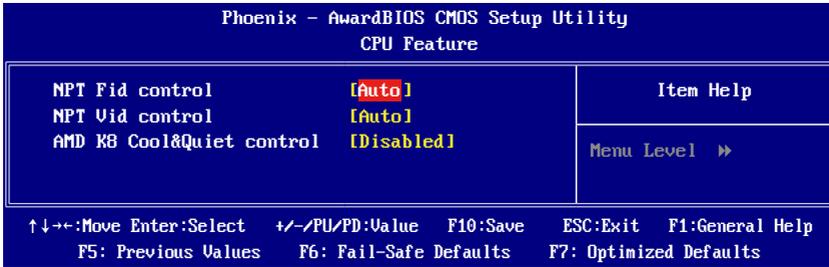
### 4.5.10 Frequency/Voltage Control

```
       Phoenix - Award WorkstationBIOS CMOS Setup Utility
                  Frequency/Voltage Control

 ▶ CPU Feature             [Press Enter]             Item Help
 ▶ DRAM Configuration      [Press Enter]
   K8<->NB HT Speed        [Auto]               Menu Level   ▶
   k8<->NB HT Width        [Auto]
   CPU Frequency           [200]
   N6100 Core Frequency    [425]
   PCIE Clock              [100Mhz]
   Onboard Lan Boot ROM    [Disabled]
   Chipset Voltage Adjust  [Default]
   DIMM Voltage Adjust     [Default]
   CPU Voltage Adjust      [Default]
   BIOS Write Protect      [Disabled]

↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help
    F5: Previous Values    F6: Fail-Safe Defaults   F7: Optimized Defaults
```

▸ **CPU Feature**
Click <Enter> key to enter its submenu:

```
           Phoenix - AwardBIOS CMOS Setup Utility
                        CPU Feature

    NPT Fid control            [Auto]            Item Help
    NPT Vid control            [Auto]
    AMD K8 Cool&Quiet control  [Disabled]
                                             Menu Level  ▸▸


  ↑↓→←:Move Enter:Select  +/-/PU/PD:Value  F10:Save   ESC:Exit  F1:General Help
      F5: Previous Values    F6: Fail-Safe Defaults  F7: Optimized Defaults
```

**NPT Fid control**
This item is for setting the CPU Fid.
**NPT Vid control**
This item is for setting the CPU Vid.
**AMD K8 Cool&Quiet control**
This option enables or disables the AMD K8 cool and quiet function.

- **Back to Frequency/Voltage Control Setup Menu**

- **DRAM Configuration**
  Click <Enter> key to enter its submenu.
  You may manually set the DRAM timing parameters through its sub-items, or leave them at their default settings according to the SPD (Serial Presence Detect) data stored in the DRAM.
- **K8<->NB HT Speed**
  This item selects the LDT Bus Frequency between CPU and Chipset.
- **K8<->NB HT Width**
  This item selects the LDT Bus Width between CPU and Chipset.
- **CPU Frequency**
  This item allows you to adjust the CPU Frequency.
- **N6100 Core Frequency**
  This item allows you to adjust the VGA Frequency.
- **PCIE Clock**
  This item allows you to select the PCIE clock.
- **Onboard Lan Boot ROM**
  Available options: [Disabled] [Enabled]
- **Chipset Voltage Adjust**
  This item allows you to adjust the Chipset Voltage.
- **DIMM Voltage Adjust**
  This item allows you to adjust the DRAM Voltage.
- **CPU Voltage Adjust**
  This item allows you to adjust the CPU Voltage.
- **BIOS Write Protect**
  Enable: BIOS ROM Write Protect.
  Disable: BIOS ROM Not Write Protect.

⚠ *Incorrectly using these features may result in system instability or corruption. Doing a overclock or overvoltage on CPU, chipsets and memory modules may result in damages or shortened life expectancy to these components. Please be aware that the menu items are for power users only.*

### 4.5.11 Load Fail-Safe Defaults

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility: Press <Y> and the <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demand on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select  and display that option, and then press <F6>.

```
Load Fail-Safe Defaults (Y/N)? N
```

### 4.5.12 Load Optimized Defaults

This option opens a dialog box that let you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demand on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

```
Load Optimized Defaults (Y/N)? N
```

### 4.5.13 Set Supervisor/User Password

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

```
Enter Password:
```

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>.

```
Confirm Password:
```

⚠ **Note:  Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.**

You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

```
PASSWORD DISABLED !!!
Press any key to continue...
```

### 4.5.14 Save & Exit Setup

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu.

```
SAVE to CMOS and EXIT (Y/N)? Y
```

### 4.5.15 Exit Without Saving

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

```
Quit Without Saving (Y/N)? Y
```

# Chapter 5 Driver Installation

Check your package and there is Driver CD included. This CD consists of all drivers you need.
In addition, this CD also include an auto detect software which can tell you which hardware is
installed, and which drivers needed so that your system can function properly.
Insert CD into your CD-ROM drive and the menu should appear as below. If the menu does not
appear, double-click My Computer / double-click CD-ROM drive or click Start / click Run / type
X:\AUTORUN.EXE (assuming X is your CD-ROM drive).
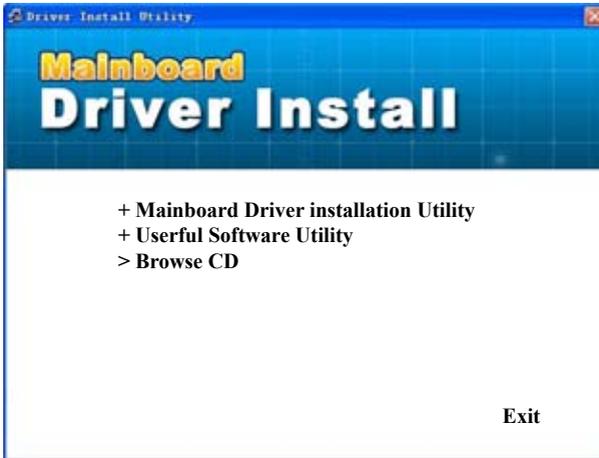


(This picture is only for reference)

From the Main MENU you may make 4 selections:
1. **+Mainboard Driver installation Utility:** Click to enter the driver installation menu.
2. **+Useful Software Utility:** Click to enter the utilities installation menu.
3. **>Browse CD:** Click to browse the contents of this "Driver & Utility CD".
4. **Exit:** Click to exit this installation menu.

When you choose **Mainboard Driver installation Utility**, the drivers menu should appear as below:
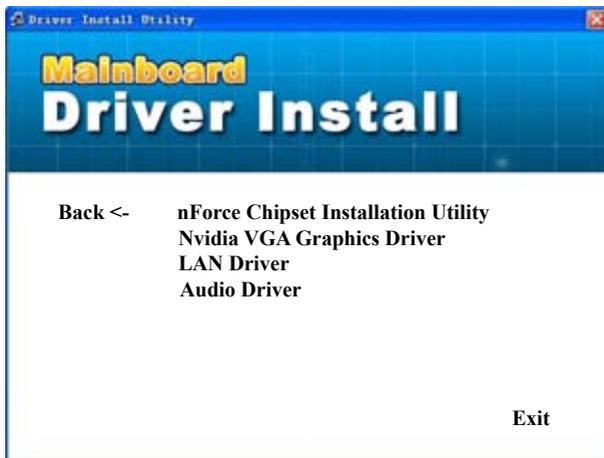


(This picture is only for reference)

From the Drivers MENU you may make 4 selections:
1. **nForce Chipset Installation Utility**
2. **Nvidia VGA Graphics Driver**
3. **LAN Driver**
4. **Audio Driver**